Searching methodology and Prisma flowchart

All articles up to December 2021, with specific keywords were searched in online databases. Keywords included either "artificial intelligence" or "machine learning" and any of the following: "endoscopy", "colonoscopy", "inflammatory bowel disease", "irritable bowel syndrome", "endoscopic ultrasound", "videocapsule", "pancreatitis", "cholangitis", "hepatitis", "gastrointestinal bleeding", "fatty liver", "NAFLD", "steatohepatitis", "alcohol liver disease", "colorectal cancer", "gastric cancer", "esophageal cancer", "atrophic gastritis", "screening in gastroenterology", "cholangitis", "cirrhosis". Online databases searched included PubMed (US National Library of Medicine National Institutes of Health), Google Scholar, Scopus, Web of Science (Clarivate Analytics). The searches yielded a combined total of 24201 results, out of which 18136 were duplicates (including overlap between different keywords). A number of 4360 abstracts were considered ineligible, due to the article addressing issues not explored in this study (most commonly studies related to other specialties than gastroenterology). Finally, 1705 studies were retrieved, out of which 721 were excluded for being too complex (e.g., addressing very specific issues of deep learning in the molecular mechanisms of a disease, and not within the scope of this general overview), 683 were excluded for using the same original data source (mostly meta-analysis using the same original data), and 243 were excluded for low quality (small datasets, debatable methodologies etc.). Finally, this paper includes data from 62 articles, in various categories. It should be noted that, while some categories have many studies and results (especially studies related to endoscopy), some have very few results, both in terms of search results as well as final eligible studies to be included (e.g., atrophic gastritis only has 1 eligible article). The search was performed by a single person, and duplicates were removed manually (no automation tool was used) using a simple spreadsheet. The article eligibility was assessed by both authors, and no significant disagreements occurred (minor disagreements were settled through discussion).

Identification of studies via databases and registers

Identification

Records identified from*:

Databases (n = 3)

Records removed *before screening*:

Duplicate records removed (n = 18136)

Screening

Records screened

(n = 6065)

Records excluded**

(n = 4360)

Reports sought for retrieval

(n = 1705)

Reports not retrieved

(n = 0)

Reports assessed for eligibility

(n = 1705)

Reports excluded:

Complexity (n = 717)

Same data source (n = 683)

Low quality (n = 243)

Included

Studies included in review

(n = 62)